Dart Aerospace Ltd.

Date: Monday, 22/09/2008 1:59:54 PM
User: Linda Lacelle

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services
Job Number : 42194 -2
Estimate Number : 10291
P.O. Number :
This Issue : 22/09/2008 S.O. No. :
Prsht Rev. : NC
First Issue : / /
Previous Run : 40251
Written By :
Checked & Approved By :
Comment : Est Rev:Pick:A 04.02.18 New issue KJ/DS
Est Rev:B Changed Mat Size 08-06-26 JLM Verified By:EC

Drawing Name : BRACKET ASSEMBLY
Part Number : D3183044
Drawing Number : D3183 REV C1
Project Number : N/A
Drawing Revision : C1
Material :
Due Date : 25/10/2008 Qty: 25 Um: Each

split 16 4

Additional Product

Job Number:

Seq. #:	Machine Or Operation:	Description :
1.0	M174B1500X02250	17-4 SS Bar 1.50 X2.250

Comment: Qty.: 0.4812 f(s)/Unit Total : 12.0304 f(s)
Material: 17-4 SS Bar per AMS 5604/5643
(M17-4-B1.500x02.250
Identify for D3183-4
Batch: M108309

J.L 08/10/01

2.0	BAND SAW	BAND SAW

Comment: BAND SAW
Cut blanks: (1.500" x ~~2.000~~ 2.250") 5.500" long

J.L 08/10/01

3.0	~~HAAS1~~	~~HAAS CNC VERTICAL MACHINING #1~~

RG

Issue P.O ~~7211~~ 7241

Comment: HAAS CNC VERTICAL MACHINING #1

Globalt

~~C2 08/08/24~~

1-Machine D3183-4 ~~as per Folio FA322~~ and Dwg D3183
Identify as D3183-4

25

C2 08/12/03

2-Deburr

3-Scribe batch number

J.F./MWC 08/12/16

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Receive + Inspect for transit damage

Comment: ~~INSPECT PARTS AS THEY COME OFF MACHINE~~ Ensure C/C attached J.F./MWC 08/12/16

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3183-044 PAR #: N/A Fault Category: Prod/Machined Parts NCR: Yes No DQA: D Date: 08/12/18

Resolution: ~~Scrap~~ Revise Process Disposition: Scrap QA: N/C Closed: D Date: 8/12/18

NCR: 42194		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/12/16	3	1 part scrap, the back angle too small. R.C. pop out # from the rise/process.	[illegible]	- destroy no replace QA1 - Revise clamping method.	08/12/17	08.12.17	[illegible]	08.12.17

NOTE: Date & initial all entries

Date: Monday, 22/09/2008 1:59:54 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** BRACKET ASSEMBLY

Job Number: 42194 **Part Number:** D3183044

Job Number:

Seq. #:	Machine Or Operation:	Description :
5.0	QC8	SECOND CHECK

QC8 08.12.17

Comment: SECOND CHECK ~~Inspect Level 5~~ QC8 SA 08/12/17 (V)

6.0	D312121	Bolt

Comment: Qty.: 2.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:
Qty Part Number Description Batch
2 D3121-21 Bolt B43536

08/12/17

7.0	D3183045	Bearing Assembly

Comment: Qty.: 2.0000 Each(s)/Unit Total : 50.0000 Each(s)
Pick:
Qty Part Number Description Batch
2 D3183-045 Bearing Ass B42179

08/12/17

8.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1

Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble D3183-043 as per Dwg D3183.

08/12/17 (IV)

9.0	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP SA 08/12/17 (IV)

10.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location:_____ ST 233A DS 08/12/18 (IV)

11.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion

U 08.12.18

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

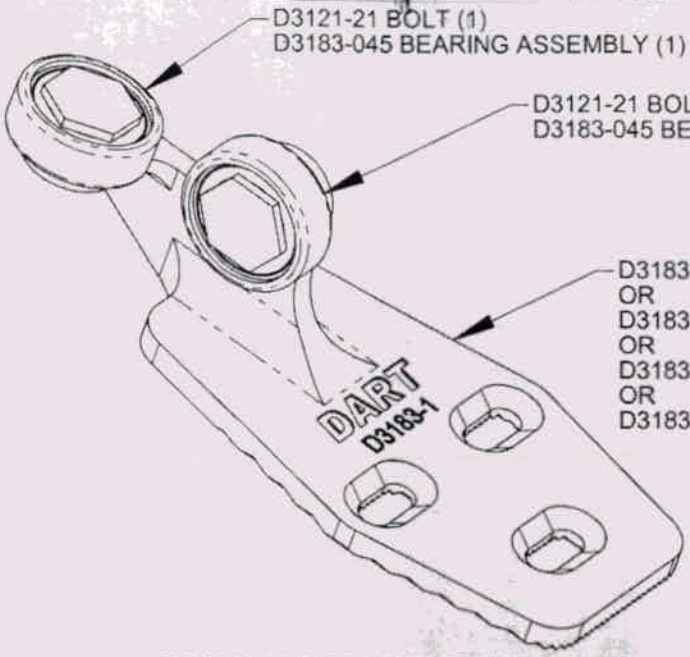
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DESIGN	DRAWN BY	**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3183	REV. C SHEET 1 OF 4
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1

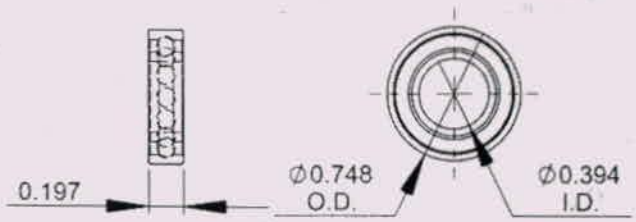
A	03.01.24	NEW ISSUE
B	03.06.17	REMOVE BEARING; 1.012 WS 0.882
C	04.02.17	ADD -045/-9; 0.182 WAS 0.431
C1	04.11.09	0.830 WAS 0.850

RELEASED 04.03.31



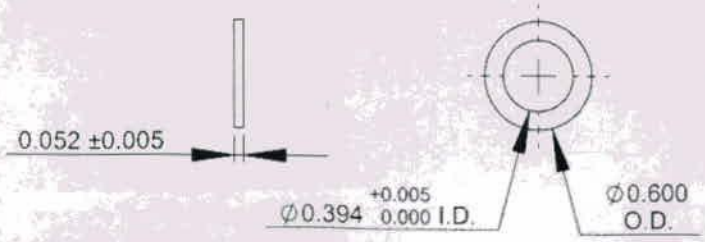
WO 42194

D3183-041 BRACKET ASSEMBLY (SHOWN)
D3183-042 BRACKET ASSEMBLY (OPPOSITE)
D3183-043 BRACKET ASSEMBLY (SIMILAR)
D3183-044 BRACKET ASSEMBLY (SIMILAR)



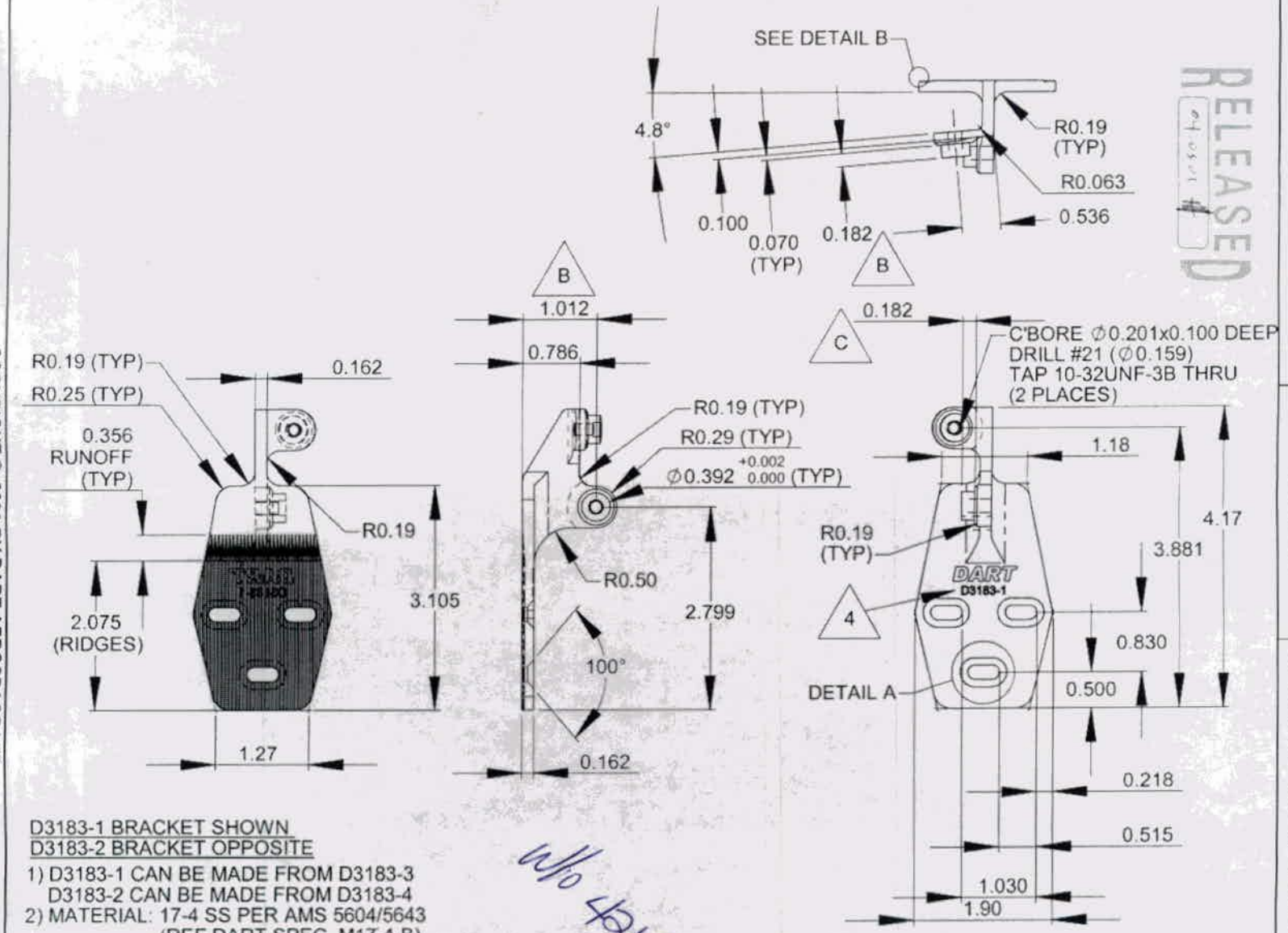
D3183-5 BEARING: SPECIFICATION CONTROL DRAWING

1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
3) ALL DIMENSIONS ARE IN INCHES



D3183-7 WASHER

1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
2) BREAK ALL SHARP EDGES 0.005 TO 0.010
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
4) ALL DIMENSIONS ARE IN INCHES



RELEASED

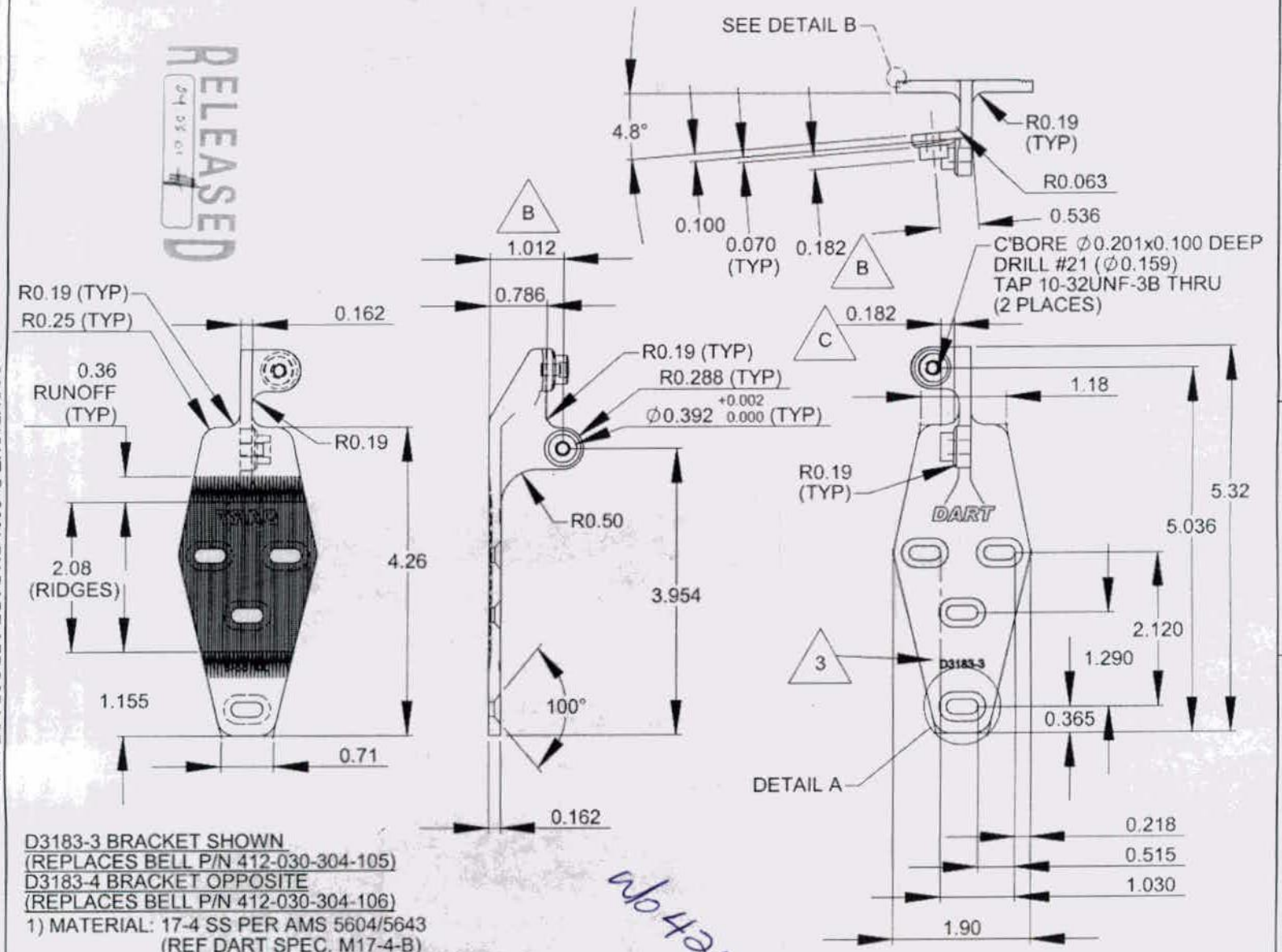
D3183-1 BRACKET SHOWN
D3183-2 BRACKET OPPOSITE

1) D3183-1 CAN BE MADE FROM D3183-3
   D3183-2 CAN BE MADE FROM D3183-4
2) MATERIAL: 17-4 SS PER AMS 5604/5643
   (REF DART SPEC. M17-4-B)
   MIN ULTIMATE STRENGTH = 150 ksi
   MIN YIELD STRENGTH = 100 ksi
3) BREAK ALL SHARP EDGES 0.005 TO 0.015
4) ENGRAVE DART P/N & LOGO AS SHOWN
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
6) ALL DIMENSIONS ARE IN INCHES

w/o 40194

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	REV. C
DATE 04.02.17	DRAWING NO. D3183	SHEET 2 OF 4
	TITLE BRACKET ASSEMBLY	SCALE 1:2



D3183-3 BRACKET SHOWN
(REPLACES BELL P/N 412-030-304-105)
D3183-4 BRACKET OPPOSITE
(REPLACES BELL P/N 412-030-304-106)

1) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE STRENGTH = 150 ksi
MIN YIELD STRENGTH = 100 ksi
2) BREAK ALL SHARP EDGES 0.005 TO 0.015
3) ENGRAVE DART P/N & LOGO AS SHOWN
4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
5) ALL DIMENSIONS ARE IN INCHES

wo 42194

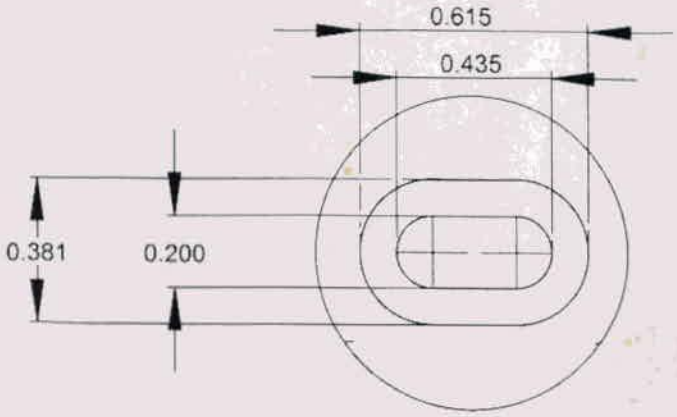
RELEASED

DART

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

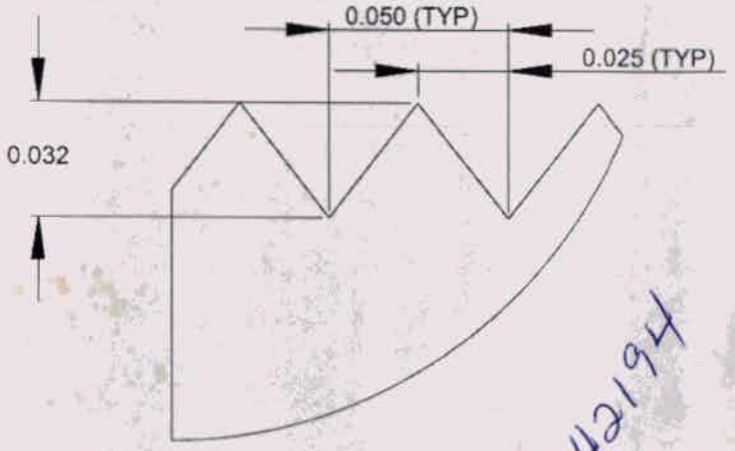
DESIGN	DRAWN BY	DRAWING NO.	REV.
CHECKED	APPROVED	D3183	C
DATE		TITLE	SHEET 3 OF 4
04.02.17		BRACKET ASSEMBLY	SCALE 1:2

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D3183	REV. C SHEET 4 OF 4
DATE 04.02.17		TITLE BRACKET ASSEMBLY	SCALE 1:1



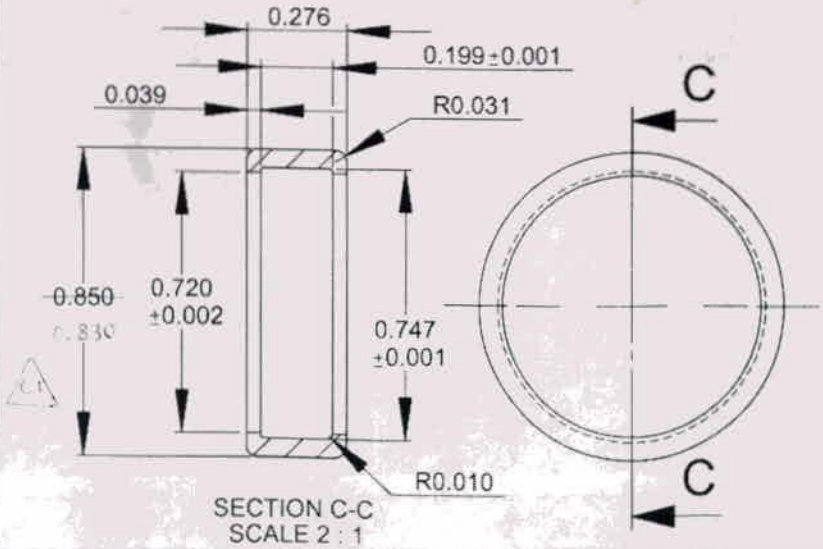
DETAIL A (2 : 1)

RELEASED
04.03.01



DETAIL B (20 : 1)

WO 42194



SECTION C-C
SCALE 2 : 1

D3183-9 CAP

1) MATERIAL: DELRIN ROD, Ø1.00
(REF DART SPEC. M-DELRIN-R1.00)
2) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED
3) ALL DIMENSIONS ARE IN INCHES

D3183-045 BEARING ASSEMBLY

1) ASSEMBLE D3183-5 BEARING AND
D3183-9 CAP

DART AEROSPACE LTD	Work Order:	42194
Description: Bracket	Part Number:	D3183-4
Inspection Dwg: D3183 Rev: C1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	R.187	✓			
R0.063	+/-0.010	.062	✓			
0.188	+/-0.010	.180	✓			
0.070	+/-0.010	.069	✓			
0.100	+/-0.010	.100	✓			
Ø0.201 x 0.100	+/-0.010	Ø.201 x .103	✓			
0.183	+/-0.010	.182	✓			
5.32	+/-0.030	5.32	✓			
5.036	+/-0.010	5.033	✓			
2.120	+/-0.010	2.120	✓			
1.290	+/-0.010	1.286	✓			
0.365	+/-0.010	.362	✓			
0.218	+/-0.010	.214	✓			
1.030	+/-0.010	1.030	✓			
1.90	+/-0.030	1.89	✓			
1.012	+/-0.010	1.012	✓			
Ø0.201 x 0.100	+/-0.010	Ø.201 x .101	✓			
0.786	+/-0.010	.783	✓			
Ø0.392	+0.002/-0.000	Ø.393	✓			
R0.19	+/-0.030	R.187	✓			
3.954	+/-0.010	3.953	✓			
0.162	+/-0.010	.164	✓			
R0.19	+/-0.030	R.187	✓			
R0.25	+/-0.030	R.25	✓			
4.26	+/-0.030	4.26	✓			
2.800 Calculated dimension	+/-0.030	2.800	✓			
0.162	+/-0.010	.164	✓			
0.615	+/-0.010	.617	✓			
0.435	+/-0.010	.435	✓			
0.200	+/-0.010	.203	✓			
0.381	+/-0.010	.386	✓			
0.032	+/-0.010	.032	✓			

Measured by:	
Date:	08/12/12

Audited by:	
Date:	08/12/14

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-044	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	04.06.15	Dimension 2.800 was 2.080; removed 1.155, 0.36 dimensions	KJ/JLM	
D	06.03.09	Dwg Rev update	KJ/JLM	
E	08.01.16	Dimensions revised	KJ/EC/DD	